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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,708

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Abdallah Mechi

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EXAMINER

STERRETT, JEFFREY L

ART UNIT

PAPER NUMBER

2838

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,708	Applicant(s) MECHI, ABDALLAH	
	Examiner Jeffrey L. Sterrett	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10, 14-18, 24 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 5-9, 11-13, 19-23, 25-28, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/28/05 & 3/2/05</u> . | 6) <input type="checkbox"/> Other: _____ |

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. The drawings are objected to because in figure 1 the labels "GU1", "GU2", and "GU3" are duplicated however labels "GW1", "GW2", and "GW3" are not shown. The drawings are also objected to because in figures 2, 4-12, 15-20, 23-31, 33, 34, 36-40, 43-47, and 49-54 all of the boxes are not shown or labeled as to their use or purpose. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the power module

comprising a reactor in addition to the other recited elements of claims 10, 24-26, and 29 must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. Claims 1-13, 24-26, and 29 are objected to because of the following informalities. Appropriate correction is required.

Claims 1-13 and 29 are confusing because in lines 5-6 of claim 1 “which has been formed required wirings” makes little to no sense.

Claims 24-26 are confusing because in line 3 of each claim “the reactor” lacks proper antecedent basis.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 14-16, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda et al (US 2007/0139978).

Maeda et al discloses a power module (figure 8) for AC/AC power conversion comprising multiple converter components (unnumbered diodes) including a multiple phase converter (23), multiple smoothing condensers (unnumbered capacitors in dashed boxes 23 and 32), and multiple inverter components (unnumbered transistors) including a multiple phase inverter (42) configured to be mounted on a substrate (see paragraph 114) which has been formed required wirings [sic], wherein at least a part of the converter components, at least a part of the smoothing condensers, and at least a part of the inverter components complying with required specification of the power module are mounted on the substrate, and having a required jumper (wiring between the converter 23 and the inverter 42).

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3, 4, 17, 18, 31, and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maeda et al in combination with Mori et al (US 2002/0034089) or Suzuki (JP 10-225138).

Maeda et al discloses a power module as explained above and recited by claims 3, 4, 17, 18, 31, and 32 except for utilizing a transistorized converter as converter 23. Both Mori et al and Suzuki disclose utilizing a transistorized converter (converter 3 comprising transistors 311-313 and 321-323 in figure 3 of Mori et al and converter 1 comprising transistors IGBTU-1, IGBTV-1, IGBTW-1, IGBTX-1, IGBTY-1, and IGBTZ-1 in figure 4 of Suzuki) in an AC/DC/AC power converter was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the power module of Maeda et al by utilizing a transistorized converter as converter 23 in order to provide controlled rectification as taught by Mori et al or Suzuki.

10. Claims 10, 24, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maeda et al in combination with Mori et al or Suzuki as applied to claims 3, 6, and 17 above.

Maeda et al and either of Mori et al or Suzuki collectively disclose a power module as explained above and as recited by claims 10, 24, and 29 except for utilizing a reactor between the converter and the inverter. Official notice is taken that utilizing a

reactor between the converter and the inverter of an AC/DC/AC power converter was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the power module collectively taught by Maeda et al and either of Mori et al or Suzuki by utilizing a reactor between the converter and the inverter in order to provide filtering of the intermediate DC voltage.

11. Claims 5-9, 11-13, 19-23, 25-28, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and also rewritten to overcome the above objections to the claims.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wieloch (US 5,610,493 and 5,623,191) and Babinski (US 6,266,258) are cited to show power modules old and known in the art at the time of the invention.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Sterrett whose telephone number is (571) 272-2085. The examiner can normally be reached on Monday-Thursday & 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey L. Sterrett
Primary Examiner
Art Unit 2838

/Jeffrey L. Sterrett/
Primary Examiner, Art Unit 2838